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ABSTRACT

Proposed in this document is a research and development program aimed at perfecting performance-based teacher training and assessment techniques. The program is described as a) being field centered (training and assessment techniques being accepted as a result of their observed effectiveness in the classroom), b) being achievement oriented, c) being based on a conceptual model, and d) encompassing a range of behaviorally established skills. Research is said to be already underway at the Educational Testing Service, but it is pointed out that efforts are as yet uncoordinated with other institutions. (JB)

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A RESEARCH STRATEGY FOR PERFORMANCE-BASED EDUCATION

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A RESEARCH STRATEGY FOR PERFORMANCE-BASED EDUCATION

The movement toward performance-based teacher education has at its foundation the idea that teachers should be trained to do those things which cause or facilitate educational growth in their students. No one, however, really knows as yet what these teacher behaviors (or performances, or competencies) are. This lack of a firm knowledge base is recognized and lamented by virtually everyone involved in or affected by the PBTE movement, for it represents a dilemma which must be resolved if performance-based teacher education is ever to become anything more than another educational fad.

This dilemma may be simply stated. On the one hand, there is a real need for a systematic, large-scale research effort aimed at discovering the linkage between patterns of teacher behavior and student change. Without such research, PBTE cannot hope to answer those critics who claim that it is a mechanistic, simplistic approach which cannot hope to comprehend the essence of real teaching.

The other side of the dilemma is the real and immediate need of teacher educators for ways to improve the teacher-education process today. Many teacher educators, recognizing the problems inherent in traditional approaches to teacher education, have already begun to move their programs and courses toward a performance base. These educators, while they need data-based knowledge about the linkage between teacher behavior and student behavior, have a real and immediate need for techniques to permit their assessing the skills their trainees possess and to provide training in those skill areas where the trainees' performance is inadequate.

The resolution of this dilemma lies in a comprehensive research and development effort aimed at the production of performance-based training and assessment modules. With such an approach, the development of assessment strategies and procedures so urgently needed by teacher educators becomes an integral part of a basic research program for specifying and validating teaching skills. This union of the two aspects of teaching performance--that is, the development of procedures for measuring the level of teaching skill, and, on the other hand, the behavioral definition of the skill and the demonstration of its utility in terms of student achievement--is not being proposed on purely pragmatic grounds. In fact, the opposite is true; the two aspects are so intimately related as to be practically inseparable. The process of defining and describing in behavioral terms the precise nature of teaching performance is part and parcel of the process of developing assessment procedures. An assessment procedure cannot be developed without a clear description of a skill, and testing the relationship of the skill to student outcomes cannot be done unless one has first developed procedures for assessing teacher performance and student achievement. Furthermore, the relationship between teacher behavior and student outcomes cannot ultimately be tested without our simultaneously developing training modules for each teaching skill to be studied.

A short digression may help to clarify this point. Performance-based teacher education rests upon the assumption that there exists a causal relationship between certain patterns of teacher behavior and specifiable student outcomes. This relationship cannot be examined at all without our first defining and describing in behavioral terms the nature of the teaching

performance to be studied, so that we can at least tell when the behavior has occurred--in other words, we must be able to measure teacher behavior at at least a nominal or categorical level. Second, we must be able to measure student outcomes in a reliable, objective manner. It is to be hoped that these measures will include not only lower-level cognitive objectives but also measures of higher-level cognitive functioning, as well as affective and attitudinal measures.

These two steps--the development of reliable and objective measures of student behavior and of student outcomes--will allow us to examine the relationship between what the teacher does and what happens to the students. We will not, however, know whether or not this relationship is a causal one until we have conducted experimental studies in which teacher behavior is itself manipulated and consequent changes in student outcomes are measured. But what the experimental psychologist calls an experimental manipulation is closely related to what the educator calls training. In both cases, the goal of the process is the same: shaping teacher behavior in a specific way. Thus, procedures which the educational researcher uses to test his hypotheses about the relationship between teacher behavior and student outcomes can readily be adopted by the teacher educator as tools to help teachers acquire specific teaching skills.

What I am suggesting, then, is that the needs of the performance-based teacher education movement may best be met by a programmatic research and development effort aimed at the production of performance-based training and assessment techniques. Such a research and development program will provide a solid empirical base on which to rest the growth of the performance-based

movement. On the one hand, it will provide empirical evidence on the linkage between patterns of teacher behavior and student outcomes; on the other hand, it will at the same time provide teacher educators with the training and assessment techniques which they so urgently need. Nor are these aspects independent; for training and assessment techniques which are developed in this program will meet with an unprecedented level of acceptance. They will be accepted not because of a publisher's promotional efforts or because of the developer's reputation; instead, they will be accepted because they work--in other words, because they have proven their usefulness for training teachers in skills whose validity has been proven in well-designed research. The techniques will be accepted as the means through which performance-based education can fulfill its promise of improving education by improving the quality of the training received by prospective teachers and by providing mechanisms for carrying out the evaluation of in-service teachers.

So far I have described the direction which the research and development program for performance-based teacher education should take. To be maximally effective, this program must have certain definite characteristics. To begin with, it should be field-centered rather than laboratory-centered. Although laboratory research would have a distinct place in the program, the major emphasis should be in the field, with as much work as possible being done in the context of on-going teacher-education programs. Such an emphasis would not involve any relaxation of the rigorous design or methodology often associated with laboratory research; in fact, it might well be argued that standards could be raised, since the rigorous design would be supplemented by the constraints imposed by reality.

This field-centered approach has several distinct advantages. First, and perhaps most important, is the constant contact and interaction among researchers, educators, and students, a process which could do a great deal to ensure that the products of the program are attuned to the realities of teaching and of teacher education. In addition, this same process would greatly facilitate the transition from experimental training and assessment procedures to those which can be and are used effectively in the teacher-training process. Finally, of course, there are political advantages: procedures developed through the participation of all interested members of the educational community would probably meet more ready acceptance than procedures that are perceived as having been developed by "ivory-tower researchers."

A second condition governing the design of this research and development program is implicit in my earlier discussion, but it is sufficiently important to be mentioned again separately. Simply stated, it is that the ultimate criterion for program success must be the outcomes achieved by the students of teachers trained by the program. I do not for a moment deny the tremendous difficulty involved in making this criterion operational, nor do I suggest that we even consider using student-learning measures as the sole criteria for evaluating individual teachers or teacher-education programs. But, in the final analysis, the only valid reason for training teachers at all is to help them facilitate the educational growth of students in their classrooms. Moreover, the dissatisfaction which prompted the present move toward performance-based teacher education sprang from serious doubts about the efficacy of the procedures currently available to classroom teachers. In a very real way, then, the research and development program which I am proposing can justify itself only by proving its ability to improve student outcomes by changing teacher behavior.

Turner (1972) has formulated six levels of criteria for the assessment of the effectiveness of teacher-education programs. I suggest that, while individual elements or modules of a program may be evaluated in terms of lower criterion levels, the program as a whole must be focused on Criterion Level I, which Turner defines as having two parts: the first is the observation of the acts or behaviors in which the teacher engages in the classroom, and the second is a systematic analysis of the outcomes achieved by this teacher's students. He further specifies that this analysis must take place over a relatively long period of time, "probably at least two years (on a time sampling basis)," in order to avoid errors resulting from random fluctuations in both teacher and pupil behavior. In other words, a program's success in training teacher candidates to perform a specified set of basic skills represents only partial success; ultimately, success can only mean that program graduates use these skills in their own classrooms, and that their students learn more as a result.

A third characteristic of the proposed research and development program would be that competencies should be selected on a conceptual basis rather than an eclectic one. It seems likely that by this time the literature notes a sufficient number of competencies, skills, and performances that are independent of any conceptual model of the teaching process. The interrelationships among the listed competencies, moreover, are relatively haphazard. Instead of developing procedures based on similarly unrelated lists of competencies, it would seem preferable to base our research and development efforts on some clear statement of philosophy or model of teaching. Our own experience with teacher behavior research and our contact with the profession have led us to believe that certain competencies are probably

more ideally suited for some models of teaching than others; consequently, it would seem most efficient to select for further development those competencies which fit together, which form a coherent whole rather than a set of unrelated, isolated elements. One way of doing this might involve selecting a number--perhaps five or so--models of teaching from those proposed by Bruce Joyce and Marsha Weil in their 1972 book, Models of Teaching, and to develop lists of the competencies required by each model.

A fourth and final characteristic of this research and development plan should involve an orientation to the teaching process that is molar rather than atomistic. Performance-based teacher education is behavioristic in that it regards the teaching process as essentially a behavioral process; that is, we believe that teachers have an effect on their students through their own behavior. Our goal is to discover the ways in which teachers can behave in order to optimize their effect on their students. This does not, however, necessarily mean that we must regard teaching as merely the ability to assemble a set of relatively simplistic basic skills. We may start with basic skill assessment--that is, we may begin by assessing the prospective teacher's ability to perform such basic skills as questioning, planning, or explaining. But we should not stop at this point. Instead, we should expand our procedures to include teaching strategies--in other words, we must develop procedures for training and assessment of teaching as a whole. We often hear that teaching is not a set of discrete acts, but requires the ability to "put it all together." We believe that the teaching process may in fact be analyzed in terms of some set of behavioral acts or basic skills; but we must also recognize the importance of being able to put it all together.

Let me stop now and attempt to put it all together. What I am recommending as the basic research strategy for performance-based teacher education is a comprehensive, field-centered, conceptually oriented, research and development program aimed at the production of performance-based training and assessment procedures. These procedures would be focused on validated competencies--that is, skills which have been found to facilitate student growth. Such a research and development program is already underway at ETS; in addition, universities and research institutions across the country are also involved in research and development efforts related to the performance-based movement. These efforts are as yet fragmented and uncoordinated; one trusts they will not forever remain so.